

Date: Wednesday, 02/04/2008 3:39:30 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : CROSSTUBE EXTRUSION
<b>Job Number</b> : 38338	
<b>Estimate Number</b> : 10028	
<b>P.O. Number</b> :	<b>Part Number</b> : D6006129
<b>This Issue</b> : 02/04/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D6006 REV A
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : // <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : A
<b>Previous Run</b> : 34690	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 26/09/2008 <b>Qty:</b> 35 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>JD 08.04.03</u>	
<b>Comment</b> : Est Rev:C 04.06.15 Added tolerance to Step 2 KJ/JLM	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 606302/04/04(35)

a) Order as per Dwg D6006

b) Material: 3.250 x 0.515 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6006)

f) Material certification required

2.0

D6006129P

Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total: 35.0000 Each(s)

Crosstube material

AS 08/09/16 (35)

3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

11/09/2008AS 08/09/16(35)

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6006

08/09/17(46)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Wednesday, 02/04/2008 3:39:30 PM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION

Job Number: 38338

Part Number: D6006129

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

N/A

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *xtube*

*cell*

*ET 08-09-17 (40)*

8.0

QC21

FINAL INSPECTION/W/O RELEASE



*08/09/18 H*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*MF 08-09-18*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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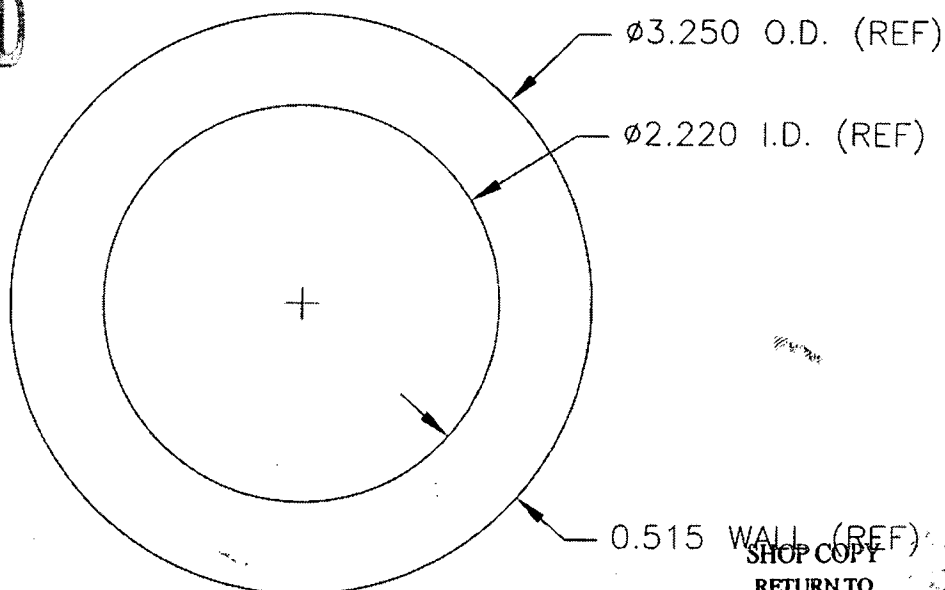
NOTE: Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D6006	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
00.11.24



### NOTES

- 1) D6006-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 129" LONG TUBE: D6006-129

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 38338

- 2) MATERIAL: 3.250 OD x 0.515 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.052$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.188/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde:  
Client:

Dart Aerospace Ltd.

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 1261/08  
Cert No.: / No. du certificat:

Bestellnummer: FO00006063  
Order No. / No. de commande

Auftrag: 29104/5  
Our Reference/Notre Reference:

Produkt:

Rohre nahtlos gepresst

Product / Produit:

Tubes seamless extruded

Spezifikation:

AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6006

Specification:

Werkstoff:

7075

Material:

Abmessung:

3,250 INCH x 2,220 INCH x 0,515 INCH x 129,000 INCH

Size / Dimension:

D6006-129 3.250 X 0.515 X 129

Kenzeichnung:

ALUnna - Cert No. 1261/08 - 7075 - T6511 - Cast No. 81992 - AMS - QQ - A - 200/11 - 3.250" OD x 0.515" Wall -  
Heat Lot No. 1835 - ALUnna Order Conf. No. 29104/5-1 - P.O. 00006063

Marking/Marquage:

Lieferung:

Stück

kg

Delivered Material / Matériel délivré:

40

1062,00

## 1. Chemische Analyse

## Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Test No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
81992	0,13	0,18	1,45	0,04	2,47	0,18	5,8	0,03	0,01	0,02	0,01	0,01	0,01

## 2. Mechanische Eigenschaften

## Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	77,0	66,0				
max.						
1	84,390	77,720	11,0		168	1835 - 40 pcs.
2	84,825	78,300	11,0		164	
3	84,825	78,735	11,0		170	

RMS: outside 15 - max. 15,41 µ"

Ergebnis der  
Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Results:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

2.08.2008

/ Duda



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003  
valid until 2010-11-11  
Cert. - Reg. No.: 001959 QM; 001959 ASH

*[Handwritten signature]*  
Abnahmebeauftragter

Customer:	PO. 000060G3
74 Unna:	29104/5
Date:	08.21.08

Dart Aerospace PO. 00006063

Made in Germany

Dest, Hawkesbury Ont. Canada

Date:	08.21.08
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We hereby declare that the wooden packing material are totally free from bark and apparently

[illegible]

AS  
8/6/11